

A) Amendments to the claims (November 22, 2003) 10/038,459:

1. (currently amended) An end launcher of microwave signals with controlled electric field polarization for transitioning between an MMIC and a waveguide connection, comprising:

-- a universal conductive housing having at least a broad wall and a major wall, at least one cavity with a platform defining a reference plane for the accommodating said MMIC and control components, ~~said reference plane is substantially parallel to said broad wall~~, having at least one feedthrough mounted in said major wall each feedthrough with one metal pin having a first end portion and a second end portion;

-- a conductive plate with a first arm having a first axis, a first length and a first width and a second arm having a second axis, a second length and a second width defining a first broad wall and a second broad wall of said conductive plate, said first arm and second arm defining a thickness and providing an L-shape waveguide probe, one end portion of said first arm having a slot with a slot width and a slot length for the connection to the first end portion of said metal pin of the at least one feedthrough in said universal conductive housing, said L-shape waveguide probe being aligned so that the second axis is substantially parallel to said major wall of the universal conductive housing, the distance between the second axis and said major wall being selected on the basis of frequencies of microwave signals;

-- a conductive universal launching adapter having a through channel with two long inner walls and two short inner walls, said two long inner walls and two short inner walls defining a cross-section of said through channel, said universal launching adapter being mounted to the major wall of said universal conductive housing~~], position of the second arm of said L-shape waveguide probe is adjusted to be substantially at a central region of the cross-section of said universal launching adapter~~]; and

-- a waveguide section with two broad inner walls and two narrow inner walls, said two broad inner walls and two narrow inner walls defining a cross-section of said through channel.

2. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1, wherein said first length, second length, first width and second width of said L-shape waveguide probe being selected according to operating frequencies of said microwave signals and characteristic impedance.

3. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1, wherein the distance between said major wall of the universal conductive housing and said second axis is selected to be substantially equal to a quarter of wavelength of microwave signals being excited.

4. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1, wherein said slot width is slightly greater than diameter of said metal pin to facilitate attachment of said L-shape waveguide probe to said metal pin.

5. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1, wherein said second axis of the L-shape waveguide probe being parallel to said broad wall of the universal conductive housing, the long inner walls of said through channel being aligned to be perpendicular to said reference plane or broad wall of the universal conductive housing and the two long inner walls of said universal launching adapter being aligned to be perpendicular to said reference plane or broad wall of the universal conductive housing, for the excitation of microwave signals with electric fields substantially parallel to said reference plane or broad wall of the universal conductive housing.

6. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1, wherein said second axis of the L-shape waveguide probe being perpendicular to said broad wall of the universal conductive housing, the long inner walls of said through channel being aligned to be parallel to said broad wall and the two broad inner walls of said universal launching adapter being aligned to be parallel to said reference plane or long wall of the universal conductive housing for the excitation of microwave signals with electric fields substantially perpendicular to said reference plane or broad wall of the universal conductive housing.

7. (canceled)

8. (currently amended) An end launcher of microwave signals for transitioning [[n]] between an MMIC and a waveguide connection in Claim 1 wherein said L-shape waveguide probe is fabricated by a micro lithography and etching method from a conductive sheet, a layer of metal is deposited on all walls of said L-shape waveguide probe to increase surface conductivity, said metal for the layer being selected from a group consisted of gold and silver.

9. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1 wherein an alignment of said L-shape waveguide probe to said metal pin is performed in a precision alignment jig, said precision alignment jig has one preformed shallow cavity to accept said L-shape waveguide probe and a platform to accept said universal conductive housing, said distance between the second arm and the major wall of said universal conductive housing being maintained by separation between an edge of said platform and said shallow cavity, the connection of said L-shape waveguide probe to said metal pin is achieved by welding.

10. (previously presented) An end launcher of microwave signals for transitioning between an MMIC and a waveguide connection in Claim 1 wherein an alignment of said

L-shape waveguide probe to said metal pin is performed in a precision alignment jig, said precision alignment jig has one preformed shallow cavity to accept said L-shape waveguide probe and a platform to accept said universal conductive housing, said distance between the second arm and the major wall of said universal conductive housing being maintained by separation between an edge of said platform and said shallow cavity, the connection of said L-shape waveguide probe to said metal pin is achieved by soldering.

A-R) Remarks on the Claim Amendments

November 22, 2003 10/038,459:

Claim 1 paragraph 2: "said reference plane is substantially parallel to said broad wall" has been deleted. [Remark 8]

Claim 1 paragraph 2: "feedthrough" has been inserted between "--major wall each" and "with one metal pin --". [Remark 9]

Claim 1 paragraph 3: "at least one" has been inserted between "--metal pin of the" and "feedthrough in --". [Remark 9]

Claim 1 paragraph 4: all words closed by square brackets have been deleted. [Remark 9]

Claim 8 line 2: "n" has been deleted. [Remark 10]